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Knowledge and Wisdom

Are scientists distinguished for their knowledge or for their wisdom? Obviously there is no point to the question unless the two words have important differences in meaning. In every-day usage they are often regarded as synonyms, or at least as having many meanings in common. Here they will be used in narrow and quite distinct senses.

Instead of attempting definitions of these words, illustrations will serve present purposes better. For example, to know how to spell and define correctly ten thousand words is to have knowledge; to be able to combine them into the proverbs of Solomon or the homely sayings of Benjamin Franklin is to have wisdom. The former is an accomplishment that nearly any person might acquire; the latter is an expression of the essential qualities of the person himself. The former is relatively superficial; the latter is fundamental.

In a somewhat similar sense the body has wisdom, as Dr. Walter B. Cannon has explained in his *The Wisdom of the Body*. The human body is a fragile structure composed of numerous unstable compounds. It is open in many places to the harsh exterior world and it lives in a widely varying environment. Moreover, it is always wearing out and constantly being repaired. Yet year after year and decade after decade, whatever vicissitudes it may encounter, it maintains within very narrow limits all its principal properties and functions that are necessary for the maintenance of life.

This wisdom of the body which Dr. Cannon described is not the result of conscious effort of the

individual. For example, the temperature of the body remains almost invariable without any conscious control. Such wisdom has been acquired by the body in the hard school of experience through a million generations of ancestors. Similarly, there is a wisdom of the mind that only occasionally rises to the level of consciousness. For example, no experiments are required to inspire belief in the correctness of the axioms of geometry or in the validity of the primary syllogisms of logic. Such universals are general descriptions of the integrated experience of the human race. They are in harmony with fundamental properties of the universe rather than expressions of the limited experience of the individual. When they cannot readily be formulated and expressed in words they are called "common sense," for the more frequent use which Dr. Irving Langmuir pleaded in his recent address as retiring president of the Association. Common sense cannot be so sharply defined that it can be analyzed and measured as scientists define their technical terms. Its importance lies not in its precision when applied narrowly but in the generality of the truths it almost unerringly reveals.

There is no scientifically absolute and sharp distinction between the wisdom of the body and the wisdom of the mind. Wisdom in the sense it is used here is a property of the whole man, not of his brain alone or of any other organ. Every part of him participates and cooperates in what is his wisdom, as every part of a lodestone is itself a lodestone that points also to the North. Wisdom includes not only wisdom of the body and wisdom of the mind but also a wisdom that may be called *social wisdom*, to give it a name, which relates to the interrelations among human beings. As an illustration, gregariousness is almost as natural as breathing. It finds expression in the organization of churches, clubs, fraternities, gangs and clans. Such organizations many incidentally serve their members, but the fundamental reason for their formation is that man is gregarious because in the evolution of the human race he found it advantageous to associate with other men.

Of the three somewhat different aspects of wisdom that have been mentioned, the wisdom of the body appears to be the most perfectly developed relative to the needs it meets. It is found to be almost identical in the bodies of all human beings, and it functions almost infallibly because it has been acquired progressively during all the evolution of the human race from remote geological ages to the present day. The wisdom of the mind, however, varies considerably from individual to individual, and is not so nearly infallible as that of the body. It pertains to functions of very great complexity and has been acquired in the relatively short interval since the considerable development of the cerebral cortex. Social wisdom, in turn, is far less developed than the wisdom of the mind because it is a wisdom on a still higher level of complexity and has been evolving for a much shorter interval of time. In fact, science is changing the relations among men so rapidly that social wisdom is not keeping pace with the increasing complexities with which it must contend.

There are a thousand evidences of lack of social wisdom, of which the present war is the most spectacular if not the most important in the long run. Its issues are urgent and cannot be met with deliberation. Just now the world is looking to scientists for means of winning this war, and scientists have the knowledge to provide these means. Ere long it will look to them for better methods of satisfying the wants of peace, and it will not look in vain because the scientific and technological advances already made under the pressures of war have surpassed the wildest dreams of five years ago. And also ere long the world will look to scientists, diplomats, philosophers, politicians, dreamers and reformers, and even charlatans, for the wisdom necessary to establish satisfactory relations among human beings—and it will look in vain, if it looks to only one of these groups. The world can look with no more hope to any particular one of them for sufficient social wisdom to direct the destinies of mankind than the body can look to the head, the heart, the bones or the blood alone for sufficient wisdom to maintain its vital processes. The wisdom of the body is the co-operative wisdom of all its thousand essential parts; and, similarly, social wisdom is the co-operative wisdom of all the elements of society—of men and women, of the aged and the young, of scholars and the relatively ignorant, of scientists and the superstitious, of workers and drones, of saints and sinners. This is the irrefutable argument for the democratic organization of

society, and its soundness is verified by the history of every political structure that has ever flourished on the earth.—F.R.M.

Vote of the Council for President of the Association

Early last autumn the Council, by mail vote, placed in nomination 20 fellows of the Association for president for 1943. A little later, in October, each member of the Association was invited to cast a preference ballot for any one of the nominees of the Council, or for any other fellow. In response to this invitation 5,224 preference ballots were cast, of which 4,809 were divided among the 20 nominees of the Council, and the remainder were widely scattered among other fellows, none of whom received more than 16 votes.

If the scheduled New York meeting had been held the Council, with the names of its 20 nominees and the results of the preference ballot of the total membership before it, would have elected a fellow of the Association as its president for 1943. But the meeting was not held. Hence the Executive Committee, at a meeting held on January 17, directed the Permanent Secretary to send each member of the Council a ballot containing the names, arranged in alphabetical order, of the 20 fellows previously nominated. The results of the ballot, certified by the tellers appointed by the chairman of the Executive Committee, are presented below.

If there were no vacancies or duplications, the Council at present would consist of 249 fellows of the Association, 52 of whom would in a sense be direct representatives of the Association. They are the President of the Association, the 10 other members of the Executive Committee, the vice presidents and the secretaries for the 15 sections, the Treasurer, a representative of the Pacific Division, a representative of the Southwestern Division, and eight members elected by the Council, two each year for a term of four years. There are also 197 other members of the Council who do not represent the Association directly, but who are elected by the affiliated academies and societies, one representing each affiliated academy of science, one representing each affiliated society having *not more* than 100 members who are fellows of the Association, and two representing each affiliated society having *more* than 100 members who are fellows of the Association. All members of the Council are fellows of the Association.

In a sense the Association is a great federation of scientific societies which have joined for

the purpose of advancing science. The composition of the Council is distributed between the central organization (21%) and the constituent academies and societies (79%) in conformity with this declared purpose. It would be difficult to establish a more competent and widely representative group of scientists than the Council to elect officers of the Association and to have general control of all its affairs.

It is clear that the Council will nearly always contain members from every major part of the country. At present, 40 of the 48 states and the District of Columbia are represented on the Council, and in addition Panama has one representative and Canada three representatives. The states not at present represented are Arkansas, Idaho, Maine, Montana, Nevada, Oregon, South Dakota and Wyoming.

Heretofore when presidents have been elected at annual meetings of the Association the number of members of the Council casting their ballots has rarely exceeded 75 and has frequently been fewer. When the mail ballots from the members of the Council had been counted by the tellers on February 17, it was found that 167 had been cast. The vote of the Council and the earlier vote of 4809 members, reduced to percentages for easy comparison, were as follows:

	Council		Members	
	Votes	%	Votes	%
Adams, Roger	12	7.2	505	10.5
Bowman, Isaiah	21	12.6	531	11.0
Bush, Vannevar*	0	0.0	208	4.3
Castle, W. E.	5	3.0	85	1.8
Daly, R. A.	10	6.0	191	4.0
Harrison, R. G.	12	7.2	190	3.8
Lillie, F. R.	6	3.6	260	5.4
Livingston, B. E.	9	5.4	142	2.9
Long, E. R.	7	4.2	165	3.4
Novy, F. G.	4	2.4	195	4.0
Ogburn, W. F.	7	4.2	233	4.8
Parker, G. H.	5	3.0	262	5.4
Richards, A. N.	3	1.8	181	3.7
Robbins, W. J.	8	4.8	149	3.0
Shapley, Harlow	21	12.6	622	12.9
Ward, H. B.	7	4.2	150	3.1
Wickenden, W. E.	13	7.8	230	4.8
Wilson, E. B.	7	4.2	133	2.7
Wissler, Clark	2	1.2	121	2.5
Woodworth, R. S.	7	4.2	256	5.3

* Stated he could not serve if elected.

Another vote of the Council for president is being taken because in the first mail ballot no person received a majority of all the votes cast. In the first ballot the names of the nominees were listed in alphabetical order. In the second ballot they are listed in the descending order of the number of votes received on the first ballot, and

the number of ballots each one received is given as it is presented here. The second ballots will be counted on March 8, too late for the results to be announced in this issue of the A.A.A.S. BULLETIN.

Officers of the Association for 1943

On February 17 the Council elected by mail ballot three members of the Executive Committee, two Council members, and the vice presidents for the sections. Those elected are to replace officers whose terms expired at the end of 1942. It is necessary to take a second ballot for president because no person received a majority vote. The report of the tellers (Austin H. Clark, Earl S. Johnston, and Frank H. H. Roberts) on the election by mail ballot is as follows:

Members of the Executive Committee

Kirtley F. Mather, professor of geology, Harvard University. Elected for a four-year term ending at the close of the meeting for December-January, 1946-1947. Doctor Mather has been a member of the Association since 1911 and a fellow since 1921. He was Secretary of the Section on Geology and Geography (E) from 1929 to 1936, inclusive, and was Vice President for the Section for 1937.

Burton E. Livingston, professor emeritus of plant physiology, The Johns Hopkins University; also director of the Laboratory of Plant Physiology. Doctor Livingston was elected for a four-year term ending at the close of the meeting for December-January, 1946-1947. He has been a member since 1903, a fellow since 1906, and a life member since 1920. He was Vice President for the Section on Botanical Sciences (G) for 1917, Permanent Secretary from 1920 to 1930, inclusive, General Secretary from 1931 to 1934, and a member of the Executive Committee since 1934 (Chairman, 1941-1942).

J. McKeen Cattell, Editor of Science, Lancaster, Pa. Doctor Cattell was elected a member in 1895, a fellow in 1896, and a life member in 1898. He was Vice President for the Section on Anthropology and Psychology (H) for 1898 and Vice President for the Section on Education (Q) for 1912. Doctor Cattell has been a member of the Executive Committee since 1920 (Chairman, 1925-1941). He was President of the Association for 1924.

Elected Council Members

Lawrence K. Frank, member of the National Resources Planning Board and formerly Vice

President of the Josiah Macy, Jr., Foundation. Elected for a four-year term ending at the close of the meeting for December-January, 1946-1947. Doctor Frank has been a member since 1935 and a fellow since 1940. He was Vice President for the Section on Social and Economic Sciences (K) for 1941.

Paul C. Kitchin, professor in The Ohio State University College of Dentistry. Elected for a four-year term ending at the close of the meeting for December-January, 1946-1947. Doctor Kitchin was elected a member in 1928 and a fellow in 1939. He has been Secretary of the Subsection on Dentistry since 1939.

Vice Presidents

On nominations made to the Council by the respective section committees, the following fellows were elected vice presidents for 1943. In the membership formula at the end of each entry, "M" stands for "Member," "F" for "Fellow," and "L" for "Life Member."

Section A (Mathematics): F. D. Murnaghan, professor of mathematics, The Johns Hopkins University. M24, F26.

Section B (Physics): J. W. Beams, professor of physics, University of Virginia. M27, F28.

Section C (Chemistry): Arthur J. Hill, professor of organic chemistry and director of the Sterling Chemical Laboratory, Yale University. M25, F25.

Section D (Astronomy): Otto Struve, professor of astrophysics, The University of Chicago, and director of the Yerkes Observatory and of the McDonald Observatory. M31, F32.

Section E (Geology and Geography): John K. Wright, director of the American Geographical Society of New York. M25, F25.

Section F (Zoological Sciences): Carl R. Moore, professor of zoology and chairman of the Department of Zoology, University of Chicago. M18, F20.

Section G (Botanical Sciences): W. J. Robbins, director of the New York Botanical Garden, New York, N. Y. M13, F21.

Section H (Anthropology): Robert H. Lowie, professor of anthropology, University of California at Berkeley. Doctor Lowie was Secretary of the Section on Anthropology and Psychology (H) in 1914. M08, F10, L33.

Section I (Psychology): Herbert Woodrow, professor of psychology and head of the Department of Psychology, University of Illinois. M25, F31.

Section K (Social and Economic Sciences): F. Stuart Chapin, professor of sociology and

head of the Department of Sociology, University of Minnesota. M21, F31.

Section L (Historical and Philological Sciences): Henry E. Sigerist, professor of the history of medicine and director of the Institute of the History of Medicine, The Johns Hopkins University. M34, F35.

Section N (Medical Sciences): Paul D. Lamson, professor of pharmacology, Vanderbilt University School of Medicine. M17, F35.

Section O (Agriculture): R. E. Buchanan, director of the Iowa Agricultural Experiment Station, professor of bacteriology and head of the Department of Bacteriology, Iowa State College. M11, F13.

Section Q (Education): Harold F. Clark, professor in charge of educational economics, Teachers College, Columbia University. M26, F31.

New Section Committeemen

The Constitution provides that each section shall have a section committee which, in addition to the representatives of affiliated societies, shall be composed of a chairman, secretary, and four fellows, one elected annually for a term of four years. The Council elects the chairmen and the secretaries of sections on nominations received from the section committees, but the committeemen are elected by the sections. To succeed those whose terms expired at the end of 1942, the following committeemen were elected by the respective sections, each for a four-year term ending at the close of the meeting for December-January, 1946-1947:

Mathematics: G. Baley Price, associate professor of mathematics, University of Kansas.

Physics: Elmer Hutchisson, 350 W. 57th St., New York, N. Y.

Chemistry: Robert M. Burns, Bell Telephone Laboratories, New York, N. Y.

Astronomy: Jason J. Nassau, professor of astronomy, Case School of Applied Science.

Geology and Geography: Ralph H. Brown, associate professor of geography, University of Minnesota.

Zoological Sciences: Clarence L. Turner, professor of zoology and chairman of the Department of Zoology, Northwestern University.

Botanical Sciences: Walter F. Loehwing, professor of botany, University of Iowa.

Anthropology: Julian H. Steward, senior anthropologist, Bureau of American Ethnology, Smithsonian Institution.

Psychology: Harold E. Burtt, professor of psychology, The Ohio State University.

Social and Economic Sciences: Frederick F. Stephan, War Manpower Commission, Social Security Building, Washington, D. C.

Historical and Philological Sciences: Conway Zirkle, professor of botany, University of Pennsylvania.

Medical Sciences: Dallas B. Phemister, professor of surgery and chairman of the Department of Surgery, The University of Chicago.

Agriculture: Emil Truog, professor of soils and chairman of the Department of Soils, University of Wisconsin.

Education: Edward S. Evenden, professor of education, Teachers College, Columbia University. Doctor Evenden was Vice President of the Section in 1936.—(For a two-year term ending at the close of the meeting for December-January, 1944-1945; Sidney L. Pressey, professor of psychology, Ohio State University.)

The Lancaster Branch

At a meeting of the Executive Committee of the Association, held in New York City on October 24, 1934, a special committee was appointed to consider the organization of local branches of the Association. The first branch, authorized by the Council at the Pittsburgh meeting in December, 1934, was established at Lancaster, Pa., in January, 1935.

A preliminary organization meeting was held in December, 1934, at Franklin and Marshall College, which was attended by about 70 persons. Dr. Otis W. Caldwell, General Secretary of the Association and chairman of the committee on the organization of local branches, attended this meeting and gave an account of the Association's work for the advancement of science, and described how its objects could be promoted by the establishment of local branches. As a result of the discussion following Dr. Caldwell's address, a committee on the organization of a branch at Lancaster was appointed.

The first regular meeting of the Lancaster Branch was held at Franklin and Marshall College on February 13, 1935, at which time Dr. W. F. G. Swann, Director of the Bartol Research Foundation of Franklin Institute, was the guest lecturer. Dr. Swann spoke on "Cosmic Rays Simplified" before an audience of 450 persons. Three other lectures were delivered during the spring of 1935, one each by Dr. William McAndrew, Dr. and Mrs. Jean Piccard, and Dr. Karl T. Compton. The membership of the branch at the close of the first year was 428.

During the season 1935-1936, seven lectures were delivered before the Branch by eminent sci-

entists in a number of different scientific fields. In the spring of 1936, the Executive Committee of the Association accepted the invitation of the Lancaster Branch to hold its regular spring meeting in Lancaster, and was tendered a banquet by the Lancaster Branch. Dr. Edwin G. Conklin, President of the Association for 1936, was the guest speaker. The banquet was attended by 300 members of the Branch. Membership at the close of this season was 1,008.

The season 1936-1937 was in particular a successful year for the Lancaster Branch. In addition to a schedule of eight lectures, it was joint host, with Franklin and Marshall College, to the annual meeting of the Pennsylvania Academy of Science, the Junior Academy of Science of Pennsylvania and the Pennsylvania Conference of Physics Teachers. This meeting was held during Easter vacation of 1937 and 350 guests were registered for the two-day meeting.

Since the organization of the Lancaster Branch, there has been no lapse in its annual program of prominent speakers, with attendance at the lectures varying, with few exceptions, from 600 to 1,000 persons. Its membership has had a steady growth, reaching last year a record of 1,200. The success of the Lancaster Branch is due in no small measure to the cooperation of the members of the faculty of Franklin and Marshall College. The present officers and members of the Executive Committee are: Jaques Cattell, Chairman; C. C. Vogt, Vice Chairman; Frances A. Coventry, Secretary; H. M. Fry, Treasurer; Noel P. Laird, Chairman of Publicity Committee; Paul L. Whitely, Chairman of Membership Committee; John L. Atlee, P. E. Bomberger, Edmund Claxton, A. C. Darmstaetter, Theodore A. Distler, Arthur R. Gerhart, H. E. Gress, George P. Luckey, H. Justin Roddy, Harvey A. Smith, and Mrs. C. C. Vogt.

Association Honorary Members

At the Ottawa meeting of the Association, in 1938, the Council appointed three delegates to represent the American Association in discussions with representatives of the British Association for the Advancement of Science, on the question of closer cooperation between the two associations and on other questions of mutual interest. The representatives of the Association were Dr. George D. Birkhoff, Retiring President in 1938, Dr. F. R. Moulton, Permanent Secretary, and Dr. H. G. Moulton. The conferences resulted in two proposals which were adopted by the General Committee of the British Association

at its meeting in Cambridge in August, 1938, as follows:

(1) Each of the associations, on alternate years, shall invite a distinguished representative of the other association to deliver a principal address at its meeting, the annual meeting in the case of the British Association and the summer meeting in the case of the American Association. It was decided that the addresses of the representatives shall be secondary in dignity and position on the program only to the presidential addresses.

(2) The American Association shall elect as honorary members, during their respective terms of office, the active members of the Council of the British Association, and send to each of these honorary members the general programs of its meetings and copies of *Science* containing the announcements and reports of its meetings. The British Association on its part will elect as honorary members, for their respective terms of office, the members of the Executive Committee and the secretaries of the sections of the American Association, and send to each of these honorary members announcements and reports of its meetings. At a meeting in October, 1938, the Executive Committee adopted the proposals and the Permanent Secretary was instructed to take the necessary steps on the part of the American Association to put them into effect.

As far as the first proposal is concerned, it has been obviously impossible to carry out the provisions agreed to, although an attempt was made at the 1939 meeting of the British Association. Dr. Isaiah Bowman, President of The Johns Hopkins University, was invited by the British Association to give the first lecture. The Dundee meeting had been in session two days but it was promptly adjourned when the declaration of war was announced. Dr. Bowman was on his way to Dundee when notice of the cancellation of the meeting reached him at the Perth railway station. He immediately crossed the platform to a train bound southward.

Since the inauguration of honorary members, there have been a few changes in the membership of the Executive Committee and several new secretaries of sections have been elected. On the other hand, the active membership of the Council of the British Association has remained almost wholly intact since the summer of 1939. Until the cancellation of the New York meeting, announcements, general programs, and reports of the meetings were mailed to each active Council member. Since its establishment a year ago, the

A.A.A.S. BULLETIN has been mailed regularly to the honorary members.

The officers and active members of the Council of the British Association, as published in the October, 1942, issue of the *Advancement of Science*, a publication of the British Association, are as follows:

President, Sir Richard Gregory.

Treasurer, Prof. P. G. H. Boswell.

General Secretaries: Prof. F. T. Brooks and Prof. Allan Ferguson.

Secretary: O. J. R. Howarth; Assistant Secretary, D. N. Lowe.

Ordinary Members of the Council: Sir Richard Allen; Dr. F. W. Aston; Rt. Hon. Viscount Bledisloe; Dr. W. T. Calman; Prof. F. Debenham; Prof. W. G. Fearnside; Dr. A. P. M. Fleming; Prof. H. J. Fleure; Prof. F. E. Fritsch; R. F. Harrod; Prof. T. G. Hill; Prof. J. H. Hutton; Sir John Graham Kerr; Sir Richard Livingstone; Prof. T. S. Moore; Prof. H. S. Raper; Prof. J. G. Smith; Lt. Col. W. Campbell Smith; Prof. C. Spearman; Dr. C. Tierney; Prof. Sir Gilbert Walker; R. S. Whipple, and J. S. Wilson.

Announcement of the Hooker Scientific Library

The magnificent Hooker collection of chemical and other scientific literature was obtained in 1936 by Dr. Neil E. Gordon, Secretary of the Section on Chemistry, from the estate of Dr. Samuel C. Hooker and transferred to Central College, Mo., where he was then located. Now that Dr. Gordon has become head of the Department of Chemistry of Wayne University, a branch of the Hooker Scientific Library has been established at that institution, which will be known as the Service Division, Hooker Scientific Library, Wayne University, Detroit, Michigan. All persons desiring searching, translating, abstracting or photocopying services, in chemical literature, are invited to send their inquiries to the Service Division of the Library.

The service the Hooker Library is now offering is not new, but a transfer from Central College to Wayne University of a service to American scientists that has been given increasingly for several years. Although Central College is near the geographical center of the United States, Wayne University, in Detroit, is near its scientific center. It is in a large city, with other large cities and large universities within easy reach of it, and it is surrounded by great industrial laboratories.

There is no other library in America, and perhaps in Europe, that is more complete in serial publications of the highest order in the field of chemistry. It has, for example, a complete set of the *Transactions of the Royal Society of London*, from its beginning in 1665, and complete sets also of the *Annales de Chimie* (1789), *Annali di Chimica* (1790), *Philosophical Magazine* (1798), *Journal für Chemie und Physik* (1811), *American Journal of Science* (1818), *Jahresbericht der Chemie* (1822), *Magasin für Pharmacie* (1825), *Journal of the Franklin Institute* (1826), *Journal für technische und ökonomische Chemie* (1828) and Liebig's *Annalen der Chemie* (1832).

Foundation for the Study of Cycles

A medal will be awarded by the Foundation for the Study of Cycles for the best work on cyclic phenomena published in the calendar year 1943. The judges who will decide who shall receive the medal this year are Dr. C. G. Abbot, Secretary of the Smithsonian Institution, Washington, D. C.; Dr. Harold E. Anthony, Dean of Scientific Staff, American Museum of Natural History, New York; Prof. Wesley C. Mitchell, Columbia University and Director of the National Bureau of Economic Research; Prof. V. C. Wynne-Edwards, head of the Department of Zoology, McGill University, Montreal; and Dr. Ellsworth Huntington, professor of geography and climatology, Yale University.

The Foundation has asked the Association's sections on physics, geology and geography, zoological sciences, botanical sciences, psychology and agriculture each to appoint an advisor to report articles and books on cyclic phenomena in their respective fields and to give advice respecting publications on the subject worthy of consideration. In addition, each of 26 of the Association's affiliated societies has been asked to appoint advisors.

Recent Deaths of Members of the Association

On the average, about 1.1% of the members of the Association die each year. During the fiscal year ended last September 30, the number of members lost by death was 219 out of a total paid membership of 21,924. Other somewhat larger losses in membership are due to resignations and failures to pay annual dues.

As notifications of deaths of members are received and their names are removed from the membership roll, one notes with interest how distinguished most of them are. The following list

of members who have died within the past few weeks is fairly representative of their ranking as scientists.

Dr. John Franklin Daniel, professor of zoology and head of the Department of Zoology at the University of California at Berkeley, who died on November 2, became a member of the Association in 1908 and was elected a fellow in 1913.

Dr. Rudolph Pintner, professor of psychology at Teachers College, Columbia University, who died on November 7, became a member of the Association in 1912 and was elected a fellow in 1914.

Dr. Charles N. Haskins, Chandler professor of mathematics at Dartmouth College, who died on November 14, became a member of the Association in 1908 and was elected a fellow in 1910.

Dr. Henry Gordon Gale, professor of physics and dean emeritus of the Division of Physical Sciences of the University of Chicago, who died on November 16, became a member of the Association in 1907 and was elected a fellow in 1910 and Vice President for the Section on Physics in 1934.

Dr. Charles Schuchert, emeritus professor of paleontology and historical geology at Yale University, who died on November 20, became a member of the Association in 1902 and was elected a fellow in 1905 and Vice President for the Section on Geology and Geography in 1927.

Dr. Frederick M. Becket, consultant to the Union Carbide and Carbon Corporation, who died on November 27, became a member of the Association in 1918 and was elected a fellow in 1931.

Mr. Charles W. Frederick, head of the Science Division of the Eastman Kodak Company, who died on November 29, became a member of the Association in 1901 and was elected a fellow in 1906.

Dr. Susan P. Nichols, professor emeritus of botany of Oberlin College, who died on December 7, became a member of the Association in 1908 and was elected a fellow in 1911.

Dr. Harrison E. Howe, editor of *Industrial and Engineering Chemistry*, who died on December 10, became a member of the Association in 1925 and was elected a fellow the same year.

Dr. Franz Boas, professor emeritus of anthropology at Columbia University, who died on December 21, became a member of the Association in 1887, was elected a fellow in 1888, Vice President for the Section on Anthropology and Psychology in 1894 and 1907, President of the Association in 1931, and a 50-year member of the Association in 1937.

Dr. Gary N. Calkins, emeritus professor of protozoology of Columbia University, who died on January 4, became a member of the Association in 1900 and was elected a fellow in 1901.

Dr. Charles J. Chamberlain, professor emeritus of botany of the University of Chicago, who died on January 5, became a member of the Association in 1901, was elected a fellow in 1902, Secretary of the Section on Botany in 1902 and Vice President for the Section on Botany in 1923.

Dr. George W. Crile, director of the research laboratories of the Cleveland Clinic Foundation, who died on January 7, became a member of the Association in 1902 and was elected a fellow in 1903.

Dr. Howard A. Kelly, emeritus professor of gynecology of The Johns Hopkins University, who died on January 12, became a member of the Association in 1924 and was elected a fellow in 1925.

Professor George B. Karelitz, professor of mechanical engineering at Columbia University, who died on January 19, became a member of the Association in 1934 and was elected a fellow the same year.

Dr. Winford Lee Lewis, director of the Department of Scientific Research of the Institute of the American Meat Packers Association and inventor of the lethal gas lewisite, who died on January 20, became a member of the Association in 1917 and was elected a fellow in 1925.

Dr. Carl C. Brigham, professor of psychology at Princeton University, who died on January 24, became a member of the Association in 1921 and was elected a fellow in 1925.

Dr. Howard M. Raymond, president emeritus of Armour Institute of Technology, who died on January 24, became a member of the Association in 1907 and was elected a fellow in 1915.

Dr. Edgar Allen, professor of anatomy and head of the Department of Anatomy at the Yale University School of Medicine, who died on February 3, became a member of the Association in 1921 and was elected a fellow in 1925.

Dr. Earle R. Hedrick, formerly vice president and provost of the University of California at Los Angeles, who died on February 3, became a member of the Association in 1907 and was elected a fellow in 1908, Vice President for the Section on Mathematics in 1931 and Secretary of the same section in 1933.

Dr. Francis H. Swett, professor of anatomy in Duke University, who died on February 10, became a member of the Association in 1919 and was elected a fellow in 1925.

Officers of the Association

President, Arthur H. Compton; *Permanent Secretary*, Forest R. Moulton; *General Secretary*, Otis W. Caldwell; *Treasurer*, C. Carroll Morgan; *Assistant Secretary*, Sam Woodley.

Executive Committee: Burton E. Livingston, *Chairman*; Roger Adams, Joseph W. Barker, Otis W. Caldwell, Walter B. Cannon, J. McKeen Cattell, Roy E. Clausen, Arthur H. Compton, Kirtley F. Mather, F. R. Moulton, and W. E. Wrather.

Membership in the Association

According to the Constitution, the objects of the Association are to promote intercourse among those who are cultivating science in different parts of America, to cooperate with other scientific societies and institutions, to give a stronger and more general impulse and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness. Members may reside in any country. A person desiring to become a member of the Association should fill in a membership application card that may be obtained from the Office of the Permanent Secretary and return it with his payment of \$5.00 for one year's dues. Every member in good standing receives with his membership a subscription for either *Science* or *The Scientific Monthly*. Dues are for the fiscal year that begins October 1; the subscription begins the following calendar year. A member desiring to receive both journals concurrently may do so by paying \$3.00 in addition to the regular dues. Members in good standing receive also, without extra charge, subscriptions for the A.A.A.S. BULLETIN, and they may purchase symposia publications at prepublication prices, and after publication at special prices to members.

A person who pays \$100 during one fiscal year may be elected a life member; sustaining members pay \$1,000. Both classes are exempt from the payment of further dues but are entitled to all the privileges of membership.

An incorporated scientific society or institution or a public or incorporated library may become a member by paying the entrance fee of \$5.00 in addition to the dues. Such institution members are entitled to the same privileges as individual members.

Members are encouraged to nominate for membership persons who desire to cooperate in carrying out the objects of the Association. Names may be sent to the Office of the Permanent Secretary at any time. In the letter of invitation to become a member of the Association the name of the person making the nomination is ordinarily mentioned.

Changes of Address

New addresses for the Association's record and for mailing the journals *Science* and *The Scientific Monthly*, as well as the A.A.A.S. BULLETIN, should be in the Office of the Permanent Secretary, Washington, D. C., at least two weeks in advance of the date when the change is to become effective.

